REMARKS

The Official Action of 2 May 2008 has been carefully considered and reconsideration of the application as amended is respectfully requested.

The dependency of claim 7 has been changed to cure an inconsistency.

Claim Rejections – 35 USC §112

The Examiner's objection that there is insufficient antecedent basis in original Claim 3 for the limitation "hydrocarbon synthesis" has been noted. This objection has been overcome by the amendment that has been made to Claim 3.

Claim Rejections – 35 USC §103

The Examiner has relied on the combination of Vogel et al (US 2002/0035163) and Leviness et al (USPN 5,811,469) to conclude that claims 1 – 26 of the present application are unpatentable under 35 U.S.C. 103(a). The Applicant respectfully submits that claims 1 – 26 of the present application are indeed novel and nonobvious when compared to the cited prior art for at least the reasons set out more fully below.

It is convenient first to consider the teachings of the present application. The inventors of the present invention were faced with solving difficulties experienced during liquid/solids separation in slurry phase reactors. More particularly, the

inventors had to address the extremely difficult problem of irreversible blinding of filter medium openings during liquid/solids separation in slurry phase reactors. In this regard, the inventors recognised that the liquid product mixture that is formed in the slurry bed in accordance with Claim 1, comprises liquid product and catalyst particles falling in three particle size ranges, namely (i) large catalyst particles having a particle size greater than x microns where x microns is the controlling dimension of the filtering medium openings in the primary filtration stage (page 3 lines 6/7 of WO 2005/005038); (ii) near-size catalyst particles, ie catalyst particles ranging in size from 1 micron to about x microns (page 3 lines 7-10); and (iii) fine catalyst particles that are significantly smaller than x microns, ie smaller than 1 micron (page 3 lines 16-18).

In the process of claim 1, a backflushing step is used to clean the primary filtering medium. The inventors realized that when a fluid containing near-size catalyst particles (such as primary filtrate produced in the primary filtration stage) is used for backflushing of the filtering medium in the primary filtration stage, the presence of near-size catalyst particles often resulted in blockage or blinding of the filtering medium in the primary filtration stage – page 3 lines 6-24. Such near-size catalyst particles are of such a size in relation to the openings in the primary filtering medium that they can become wedged in a filtering opening, or a number of particles may be forced together during backflushing and together bridge a filter opening. In this regard, it is important to note that the primary filtering medium, in addition to its controlling dimension of x, also has a range of filtering openings of smaller dimensions - see the reference to gap size standard deviation on page 5

lines 14-19.

The inventors unexpectedly found that the abovementioned problem could be overcome by employing the process of Claim 1, and in particular by employing a secondary filtration stage to remove the near-size catalyst particles from the primary filtrate, and then using the resultant secondary filtrate as backflushing fluid for the primary filtering medium.

The Applicant is in general agreement with the Examiner's summary of the teaching of Vogel. However, the Applicant additionally submits that Vogel is silent as to the potential problem of blockages of the primary filtering medium during backflushing. Furthermore, Vogel does not at all deal with or suggest secondary filtration to remove near-size catalyst particles. Instead, Vogel aims to avoid filter blockages by selection of a break-up resistant catalyst and by limiting the amount of catalyst particles smaller than the controlling dimension of the primary filtering medium initially loaded into the reactor, i.e. by altogether limiting the proportion of near-size catalyst particles present in the catalyst bed.

Turning now to Leviness, Leviness sets out to achieve a filtration process in which the slurry is degassed prior to filtration and in which catalyst particle filter cake build up is reduced (column 1, lines 57 to 60). Leviness thus teaches a filtration process in which a gas disengaging downcomer feeds the slurry to a filtration zone, with the gas reduced slurry contacting the filtering medium under high net flow conditions. These high net flow conditions results in reduced build up of catalyst particles on

the filtering medium as a result of the shearing, scouring and removing action of the flowing slurry (column 1, line 63 to column 2, line 11). Interestingly, Leviness is completely silent as to the use of backflushing to clean the filtering medium, and it would appear that Leviness treats the shearing, scouring and removing action of the flowing slurry as the means of cleaning the filtering medium, i.e. as a substitute for backflushing. Leviness also makes no mention of further (secondary) filtration of the filtrate obtained from the above described filtration step.

In the Office Action, the Examiner correctly points out that Leviness shows a hydrocarbon synthesis reactor having both an internal and an external filter fed by gas disengaging downcomers. It is respectfully submitted that this combination simply does not constitute or suggest a primary filtration stage and a secondary filtration stage as claimed in claim 1 of the present application. Both the internal and the external filters of Leviness are fed with degassed slurry withdrawn from the same slurry body inside the reactor. In contrast hereto and as claimed in claim 1, the primary and secondary filtration stages of the present application are arranged in the following order: the primary filtration stage produces a primary filtrate, the secondary filtration stage separates near-size catalyst particles from the primary filtrate to produce a secondary filtrate, and the secondary filtrate is then used as backflushing fluid for the primary filtration stage.

Leviness also teaches a gas and solids reducing downcomer (column 3, lines 41 – 47, Figure 2 and its description starting from column 7, line 25). This gas and solids reducing downcomer serves not only to feed a gas reduced slurry to the

filtration zone, but also a solids reduced slurry. The solids reduction is achieved by virtue of the structure of the gas and solids reducing downcomer as described in the passages referred to above, and is not as a result of filtration. It is submitted that this particular embodiment is largely irrelevant to the present application.

It is thus submitted that the present application is indeed novel and nonobvious over the cited prior art. A skilled person wishing to solve the problem of irreversible blinding of a primary filtering medium will have no incentive from the teachings of Vogel and/or Leviness to employ a secondary filtration stage to remove near-size catalyst particles from primary filtrate and then to backflush the primary filtering medium with the secondary filtrate. Vogel teaches avoidance of near-size particles, while Leviness appears to teach avoidance of backflushing. In addition, neither Vogel nor Leviness recognises the potential of near-size particles to cause irreversible blinding of filtering openings during backflushing.

In view of the above, Applicant respectfully submits that all rejections and objections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,

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